

FIGURE 1 - Pervasive Commerce System

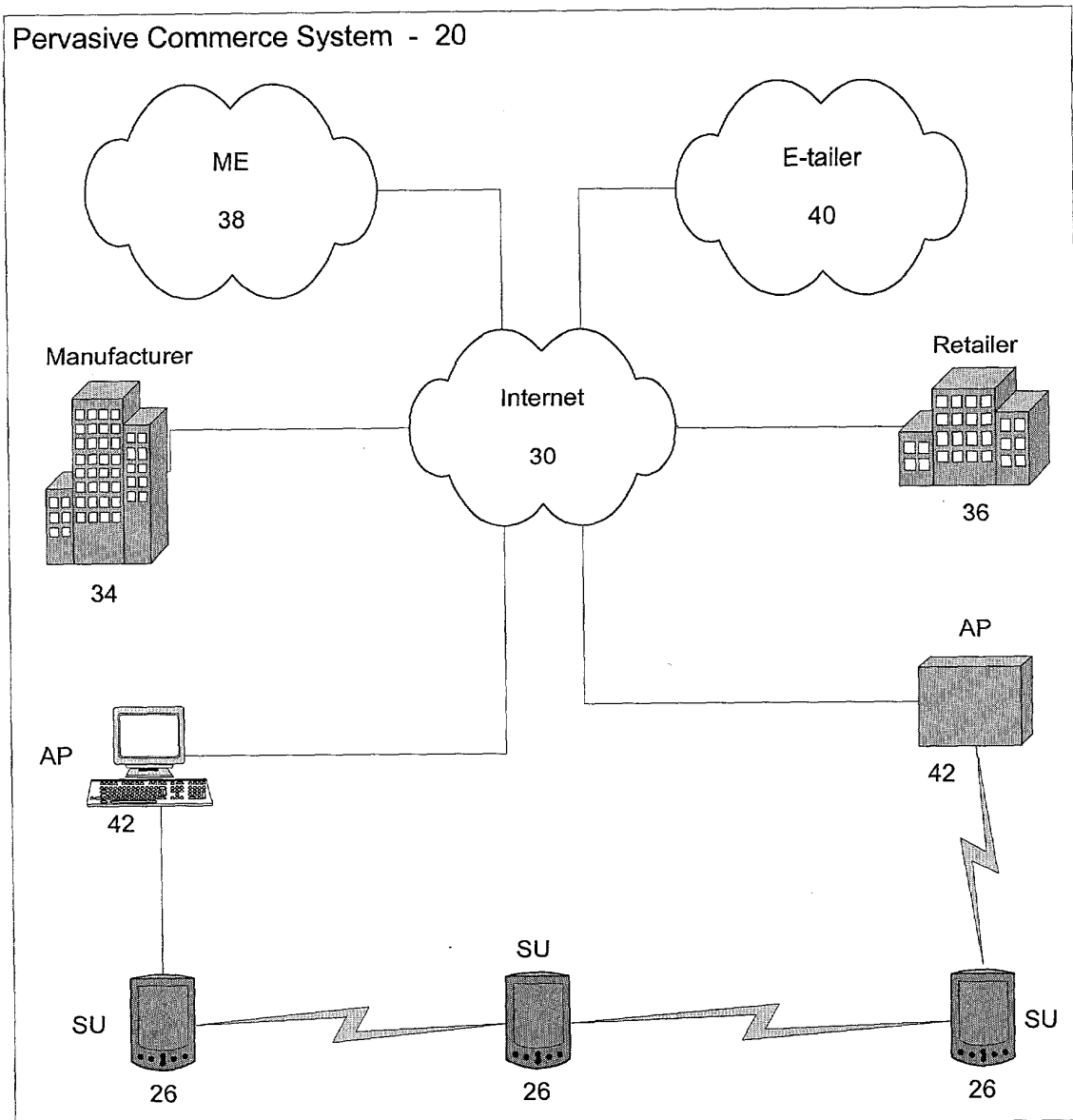


FIGURE 2 - Generic Case Structure

Item Data Block ("I" Block)	
Case Information	ID, version, etc., for the entire case.
Link Information	Relationship to other cases.
Item Information	ID, name, description, etc., for the item.
ME Public Key	Case key or ME key version, used for encryption and whose private key peer is used in "I" and "O" Block signatures.
Distributor Public Key	Assigned to or received from Distributor; private key is used in "D" Block signature.
Block Signature	ME signature of "I" Block

Object Block ("O" Block)	
Object Information	ID, type, description, encoding, size, etc., for the contained digital object.
Object	Image, music, digital asset, etc.
Block Signature	ME signature of "O" Block (via private key peer to ME Public Key).

Distributor Data Block ("D" Block)	
Distributor Information	ID, name, information, etc., for Distributor.
Item Information	Encrypted wholesale price, etc., of item.
Item Options	Selectable features and options of item.
Mutation Rules	Controlling application behavior for case mutation (e.g., expiration date).
Passer Public Key	Assigned to or received from Passer, whose private peer is used in "P" Block signature.
Block Signature	Distributor signature of "D" Block (via private key peer to Distributor Public Key).

Passer Data Block ("P" Block)	
Passer Information	ID, name, etc., of Passer.
Item Information	Sales price, comments, etc., about item.
Receiver Public Key	Assigned to or received from Receiver.
Block Signature	Passer signature of "P" Block (via private key peer to Passer Public Key).

Receiver Data Block ("R" Block)	
Receiver Information	ID, name, etc., of Receiver.
Block Signature	Receiver signature of "R" Block (optional).

FIGURE 3 - Pervasive Commerce Case Layout

Case

Product Data Product Data (product name & description, manufacturer name, address, phone, URL, MSRP, etc)		
ME Public Key Version	Case Version (Template)	Distributor Public Key
Case ID	Case SubID	Product Data Signature (ME)

Distributor Data Distributor Info (name, address, phone, URL, promotion, start date, stop date, etc)		
Encrypted [Distributor Price]	Product selectable features	Sales Associate Public Key
Distributor Comments	Mutations	Distributor Data Signature

Sales Associate		
	Sales Associate Comments	Consumer Public Key
Retail Price	Sales Associate ID	Sales Associate Data Signature

Consumer		
	Consumer Comments	Consumer Password (encrypted)
Consumer ID	Product Feature Selections	Consumer Data Signature
Consumer Account Name	Local Purchase Time/Date	Purchase Price
Credit Card selection	Billing Address selection	

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graph TD; subgraph Case; subgraph ProductData [Product Data]; ME[ME Public Key Version]; CaseV[Case Version Template]; DistPub[Distributor Public Key]; CaseID[Case ID]; CaseSub[Case SubID]; ProdSig[Product Data Signature ME]; end; subgraph DistributorData [Distributor Data]; DistInfo[Distributor Info name, address, phone, URL, promotion, start date, stop date, etc]; EncPrice[Encrypted Distributor Price]; ProductFeatures[Product selectable features]; SalesAssocPubKey[Sales Associate Public Key]; DistComments[Distributor Comments]; Mutations[Mutations]; DistDataSig[Distributor Data Signature]; end; subgraph SalesAssociate [Sales Associate]; SalesAssocComments[Sales Associate Comments]; ConsumerPubKey[Consumer Public Key]; RetailPrice[Retail Price]; SalesAssocID[Sales Associate ID]; SalesAssocDataSig[Sales Associate Data Signature]; end; subgraph Consumer [Consumer]; ConsumerComments[Consumer Comments]; ConsumerPassword[Consumer Password encrypted]; ConsumerID[Consumer ID]; ProductFeatureSelections[Product Feature Selections]; ConsumerDataSig[Consumer Data Signature]; ConsumerAccountName[Consumer Account Name]; LocalPurchaseTimeDate[Local Purchase Time/Date]; PurchasePrice[Purchase Price]; CreditCardSelection[Credit Card selection]; BillingAddressSelection[Billing Address selection]; end; end; DistributorData --> SalesAssociate; SalesAssociate --> Consumer;
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FIGURE 4 – Generic Case Flow

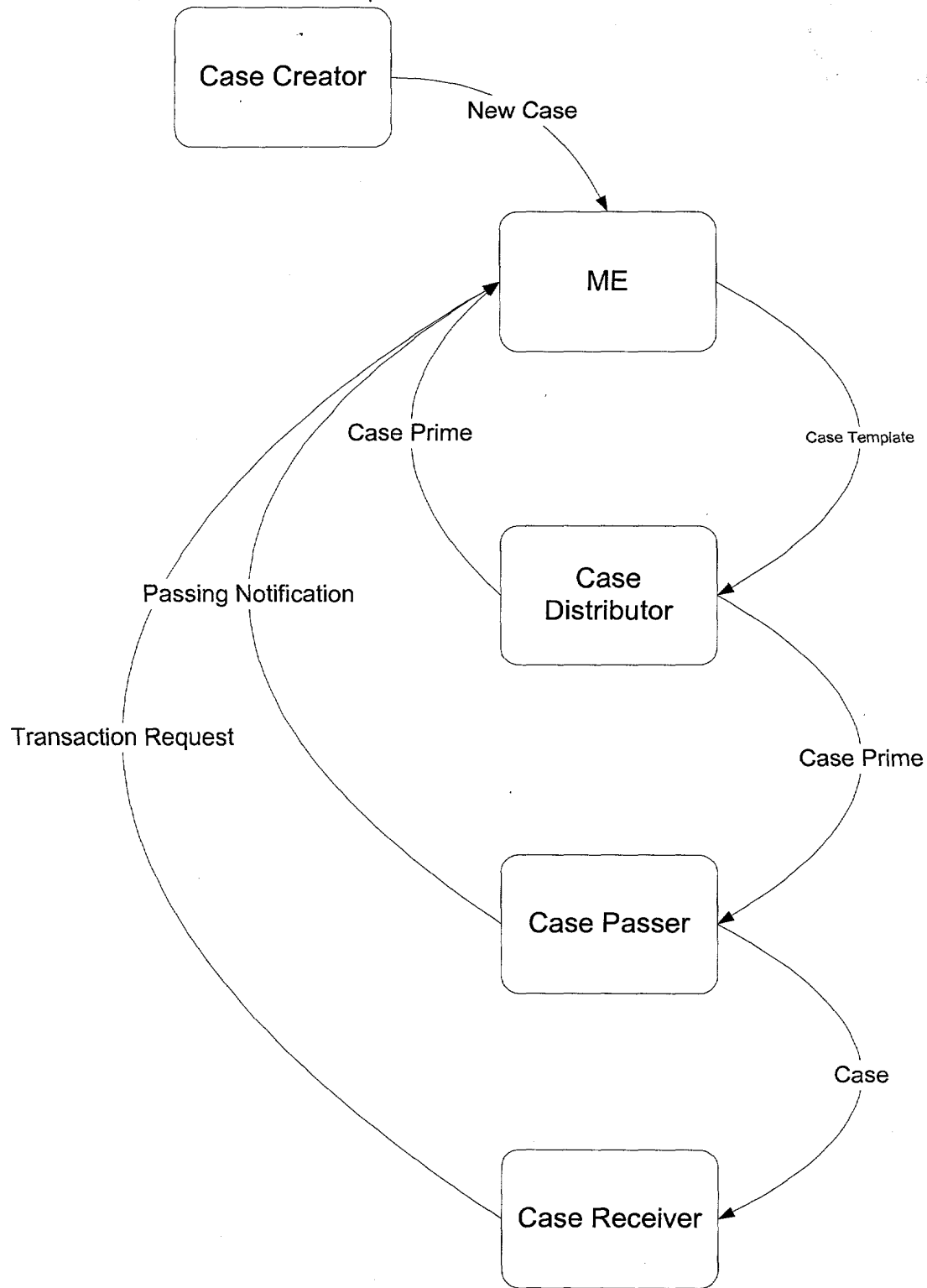


FIGURE 5 - New Case Template Layout

Case

Item Data

Product Data (product name & description, manufacturer name, address, phone, URL, MSRP, etc)

ME Public Key Version

Case Version (Template)

Distributor Public Key

Case ID

Case SubID

Product Data Signature (ME)

Dynamic Data

Product Feature Selection Choices

FIGURE 6 - Case Prime Layout

Case

Item Data

Product Data (product name & description, manufacturer name, address, phone, URL, MSRP, etc)

ME Public Key Version

Case Version (Template)

Distributor Public Key

Case ID

Case SubID

Product Data Signature (ME)

Digital Object(s)

Object Data

Digital Object Signature (ME)

Distributor Data

Distributor Info (name, address, phone, URL, promotion, start date, stop date, etc)

Encrypted [Distributor Price]

Product selectable features

Sales Associate Public Key

Distributor Comments

Mutations

Distributor Data Signature

Dynamic Data

Distributor Price

FIGURE 7 - Passed Case Layout

Case

Item Data		
Product Data (product name & description, manufacturer name, address, phone, URL, MSRP, etc)		
ME Public Key Version	Case Version (Template)	Distributor Public Key
Case ID	Case SubID	Product Data Signature (ME)

Digital Object(s)	
Object Data	Digital Object Signature (ME)

Distributor Data		
Distributor Info (name, address, phone, URL, promotion, start date, stop date, etc)		
Encrypted [Distributor Price]	Product selectable features	Sales Associate #1 Public Key
Distributor Comments	Mutations	Distributor Data Signature

Passer (Sales Associate) Data		
Encrypted [Sales Associate Price]	Sales Associate ID	Sales Associate Data Signature
Sales Associate Comments	Consumer Public Key	

Dynamic Data	
Sales Associate Price	

The diagram illustrates the flow of data through the 'Passed Case Layout'. It starts with the 'Item Data' section, which contains 'Product Data' and various identifiers like 'ME Public Key Version', 'Case ID', 'Case SubID', and 'Distributor Public Key'. An arrow points from 'Product Data' to the 'Digital Object(s)' section, specifically to 'Object Data'. From 'Object Data', an arrow points to the 'Distributor Data' section, specifically to 'Distributor Info'. Another arrow points from 'Distributor Data' to the 'Passer (Sales Associate) Data' section, specifically to 'Sales Associate Data Signature'. Finally, an arrow points from 'Sales Associate Data Signature' to the 'Dynamic Data' section, specifically to 'Sales Associate Price'.

FIGURE 8 - Complete Case Layout

Case

Item Data		
Product Data (product name & description, manufacturer name, address, phone, URL, MSRP, etc)		
ME Public Key Version	Case Version (Template)	Distributor Public Key
Case ID	Case SubID	Product Data Signature (ME)

Digital Object(s)	Object Data	Digital Object Signature (ME)
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Distributor Data		
Distributor Info (name, address, phone, URL, promotion, start date, stop date, etc)		
Encrypted [Distributor Price]	Product selectable features	Sales Associate #1 Public Key
Distributor Comments	Mutations	Distributor Data Signature

Passer (Sales Associate) Data		
Sales Associate Comments	Consumer Public Key	
Retail Price	Sales Associate ID	Sales Associate Data Signature

Receiver (Consumer) Data	
Consumer Comments	
Consumer ID	Consumer Data Signature

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graph LR; PDS[Product Data Signature (ME)] --> SIG; DOS[Digital Object Signature (ME)] --> SIG; DDS[Distributor Data Signature] --> SIG; SASD[Sales Associate Data Signature] --> SIG; CDS[Consumer Data Signature] --> SIG;
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FIGURE 9 - Consumer Synchronization of PDA with ME

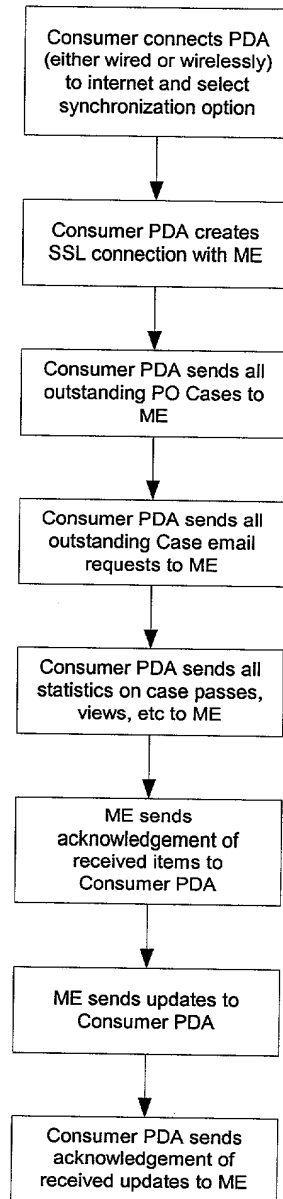


FIGURE 10 - Consumer Makes Case-Based Purchase

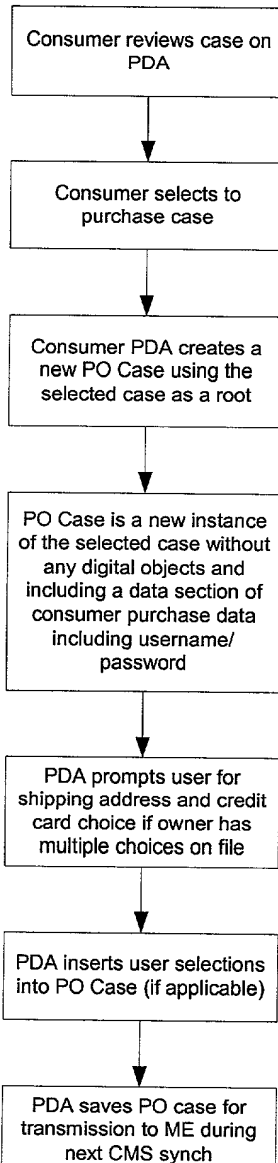


FIGURE 11 - Purchase Request Case Layout

Case

Product Data		
Product Data (product name & description, manufacturer name, address, phone, URL, MSRP, etc)		
ME Public Key Version	Case Version (Template)	Distributor Public Key
Case ID	Case SubID	Product Data Signature (ME)

Distributor Data		
Distributor Info (name, address, phone, URL, promotion, start date, stop date, etc)		
Encrypted [Distributor Price]	Product selectable features	Sales Associate Public Key
Distributor Comments	Mutations	Distributor Data Signature

Sales Associate		
Sales Associate Comments	Consumer Public Key	
Retail Price	Sales Associate ID	Sales Associate Data Signature

Consumer		
Consumer Comments	Consumer Password (encrypted)	
Consumer ID	Product Feature Selections	Consumer Data Signature
Consumer Account Name	Local Purchase Time/Date	Purchase Price
Credit Card selection	Billing Address selection	

The diagram illustrates the flow of data in a Purchase Request Case Layout. It is organized into four main sections: Product Data, Distributor Data, Sales Associate, and Consumer. Each section contains specific data fields. Arrows indicate the flow of data from Product Data to Distributor Data, then to Sales Associate, and finally to Consumer.

FIGURE 12 - Sales Associate Passes Case to Sales Associate

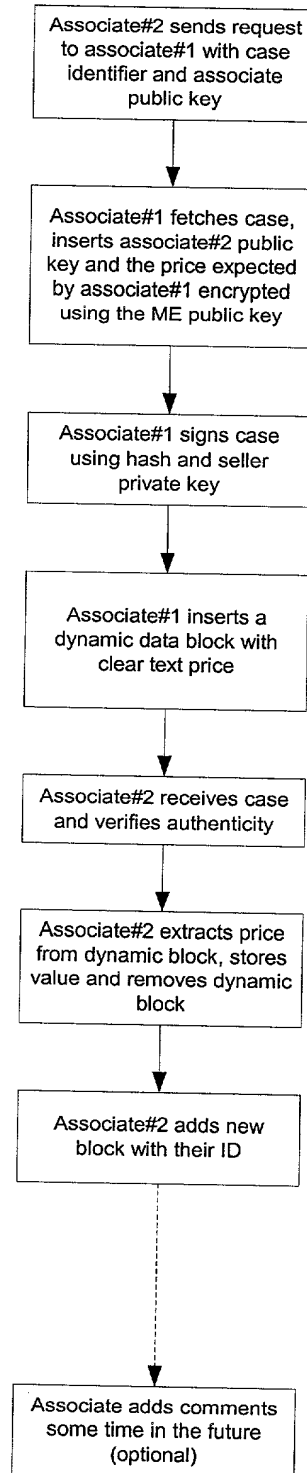


FIGURE 13 - Sales Associate Passes Case to Consumer

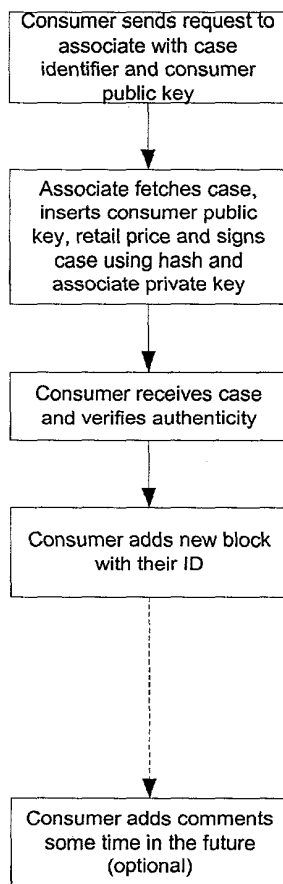


FIGURE 14 - Consumer Passes Case to Consumer

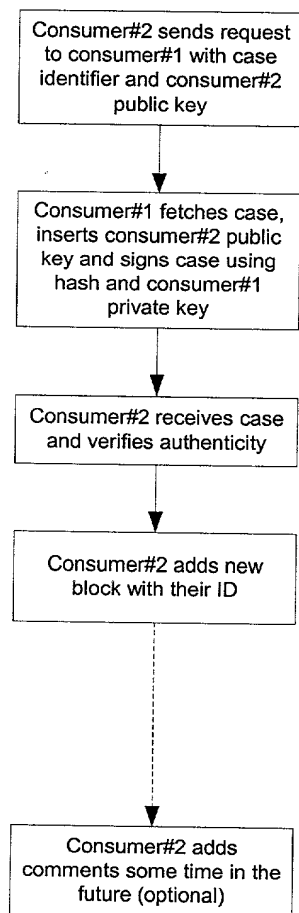
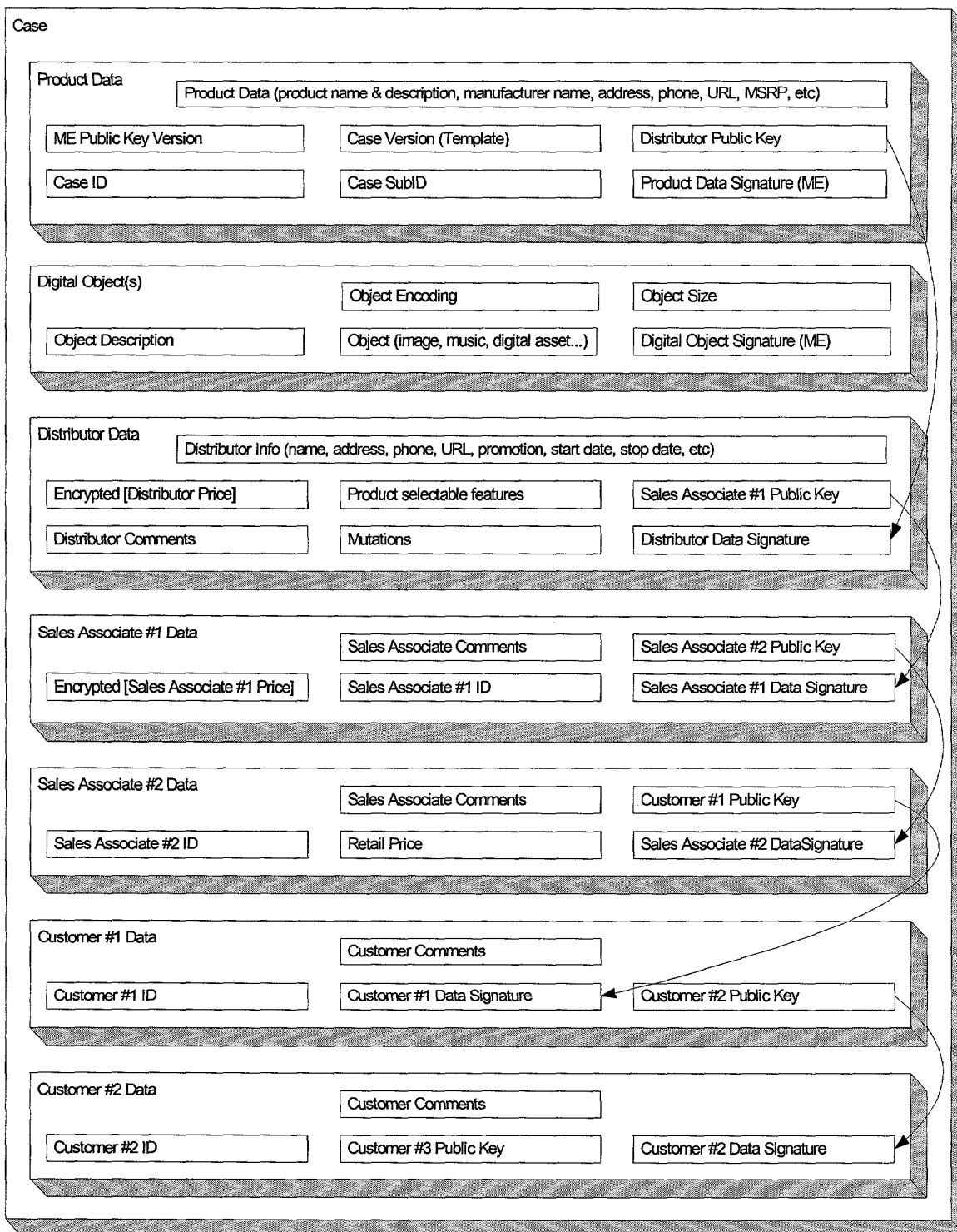


FIGURE 15 - Pervasive Commerce Case Layout



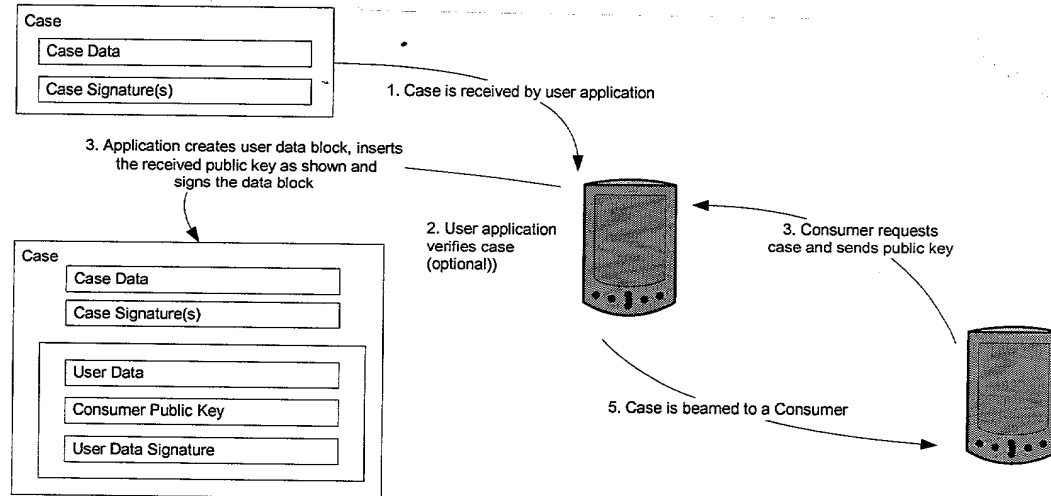


FIGURE 16 – Receiver Selected Key Exchange

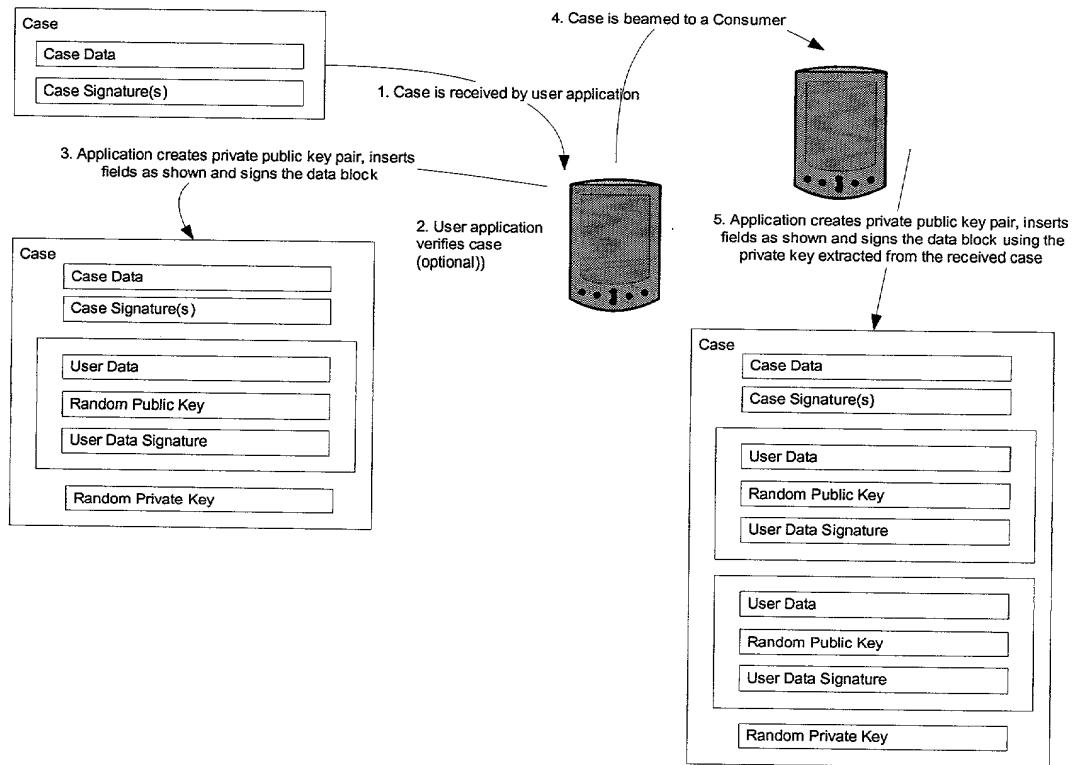


FIGURE 17 – Passer Generated Key Exchange

Digital Object
Object Description (text name and description of the contained digital object)
Object Type (image, video, music clip, music song, music album)
Object Encoding (jpeg, tiff, mpeg, mp3, midi, XrML, zip, pdf)
Object Size (total size of object in bytes)
Object (actual object data)
Digital Object Signature (ME)

FIGURE 18 – DIGITAL OBJECT

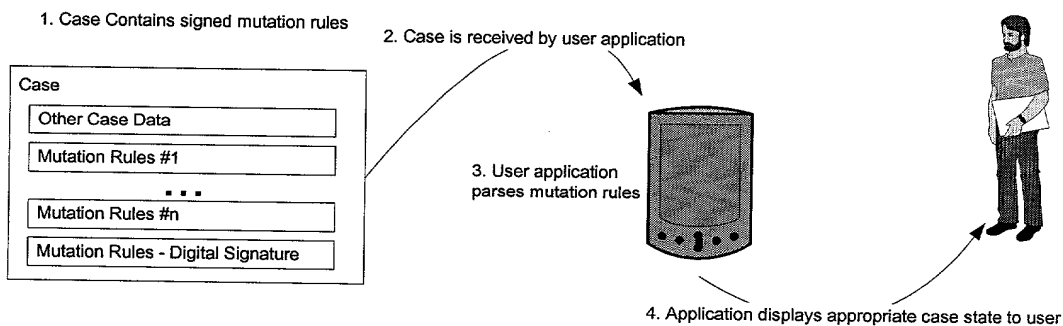


FIGURE 19 – Trusted Case Mutation

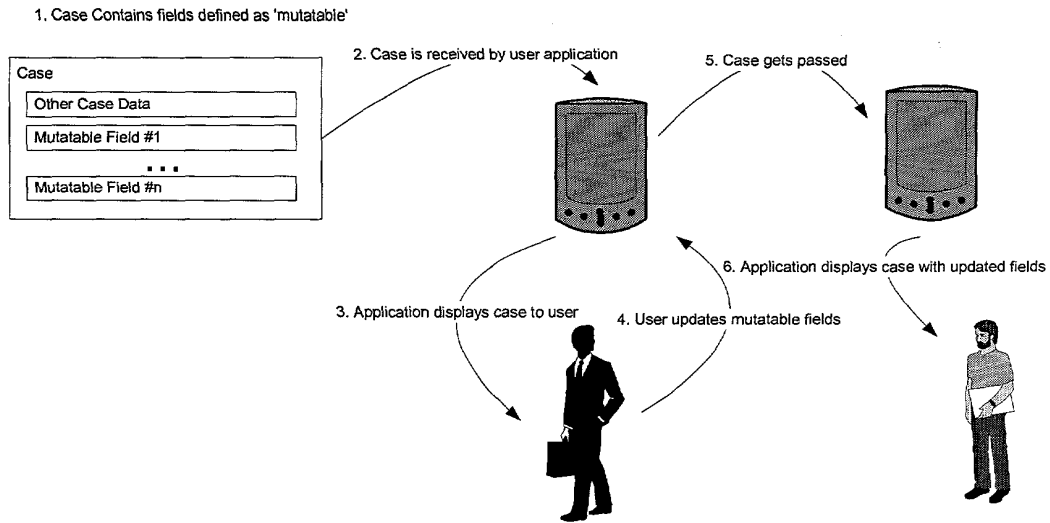


FIGURE 20 – Untrusted Case Mutation